REMARKS

This Amendment and Response to Non-Final Office Action is being submitted in response to the non-final Office Action mailed July 5, 2005. Claims 1-20 are pending in the Application. Claims 1-20 stand rejected. Specifically, Claims 1-20 stand rejected under 35 U.S.C. 102(b) as being anticipated by Huang '578 (U.S. Patent No. 6,342,578). This is the only rejection of the Application.

Rejection of Claims 1-20 under 35 U.S.C. 102(b) – Huang '578:

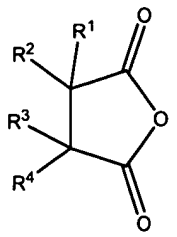
U.S. Pat. No. 6,342,578 issued to Huang and assigned to the present assignee concerns reducing/eliminating caustic stress cracking in isophthalic acid/PET copolyester resin. Huang '578 solved this problem by introducing at the end of polycondensation, one or more of phthalic anhydride, glutaric anhydride, benzoic anhydride, maleic anhydride or succinic anhydride in an amount sufficient to significantly reduce the caustic stress cracking. The anhydrides reacted with the hydroxyl end groups to form carboxyl end groups (CEG). This patent and Applicant's current invention are commonly assigned.

The Examiner recites a litany of limitations, and points to Huang '578 as disclosing each one. However, what the Examiner fails to recognize, is that Huang '578 does not deal with substituted cyclic anhydrides.

As the Examiner states, Huang '578 does indeed deal with the addition of a cyclical anhydride at the end of polycondensation. Huang '578 discloses that succinic, glutaric, benzoic, maleic, and phthalic anhydrides can be used for this purpose. Huang '578 does not disclose that a substituted succinic, glutaric, benzoic, maleic, or phthalic anhydride can also be utilized to reduce the caustic stress cracking as seen in the prior art bottles.

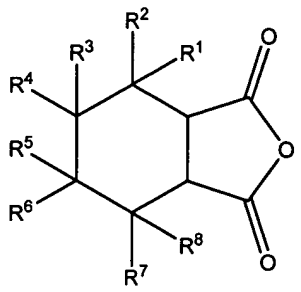
As stated in the application as filed, substituted cyclical anhydrides can consist of the following:

a) substituted succinic anhydrides



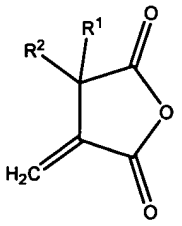
where R^1, R^2, R^3 and R^4 can be hydrogen, alkyl, alkenyl or aryl groups, and at least one group is not hydrogen.

Included in this class of substituted succinic anhydrides are cycloalkane and cycloalkene substituents, giving such compounds as hexahydrophthalic anhydride and substituted hexahydrophthalic anhydride:



where R^1, R^2, R^3, R^4, R^5, R^6, R^7 and R^8 can be hydrogen, alkyl, alkenyl or aryl groups.

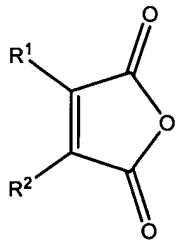
Also included in this class are itaconic (2-methylene succinic anhydride) and substituted itaconic anhydrides:



where R^1 and R^2 can be hydrogen, alkyl, alkenyl or aryl groups.

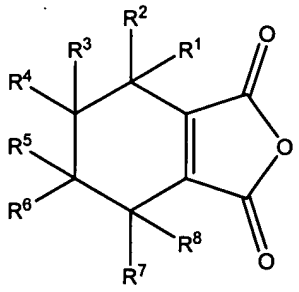
From this class, the mono-alkenyl substituted succinic anhydrides are preferred. The most preferred are the C_8 to C_{20} alkenyl groups.

b) substituted maleic anhydride



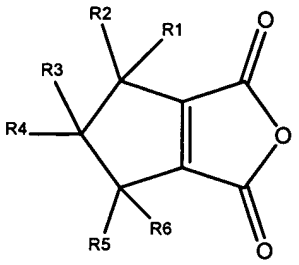
where R^1 and R^2 can be hydrogen, alkyl, alkenyl or aryl groups, and at least one group is not hydrogen.

Also included in this class are cycloalkane and cycloalkene substituents, giving such compounds as 3,4,5,6-tetrahydrophthalic anhydride and substituted tetrahydrophthalic anhydride groups:



where R^1, R^2, R^3, R^4, R^5, R^6, R^7 and R^8 can be hydrogen, alkyl, alkenyl or aryl groups;

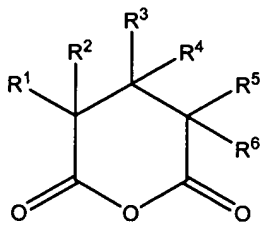
and substituted 1-cyclopentene-1,2-dicarboxylic anhydride:



where R^1, R^2, R^3, R^4, R^5 and R^6 can be hydrogen, alkyl, alkenyl or aryl groups.

From this class, 2-methyl maleic anhydride (citraconic anhydride) and diphenyl maleic anhydride are preferred.

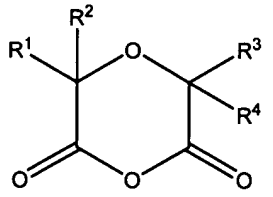
c) substituted glutaric anhydride



where R^1, R^2, R^3, R^4, R^5 and R^6 can be hydrogen, alkyl, alkenyl or aryl groups, and at least one group is not hydrogen.

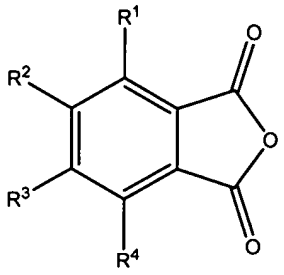
From this class, 2-ethyl-3-methyl glutaric acid is preferred.

d) diglycolic anhydride and substituted diglycolic anhydride



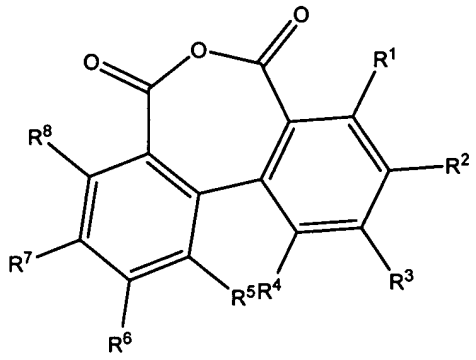
where R^1, R^2, R^3 and R^4 can be hydrogen, alkyl, alkenyl or aryl groups.

e) Substituted phthalic anhydride



where R^1, R^2, R^3 and R^4 can be hydrogen, alkyl, alkenyl or aryl groups, and at least one group is not hydrogen.

f) diphenic anhydride and substituted diphenic anhydride



where R^1, R^2, R^3, R^4, R^5, R^6, R^7 and R^8 can be hydrogen, alkyl, alkenyl or aryl groups.[1]

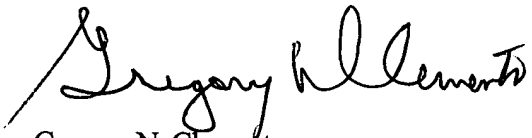
Huang '578 does not disclose any of these compounds as being suitable. Huang '578 deals only with succinic, glutaric, benzoic, maleic, and phthalic anhydrides in their unsubstituted forms.[2] Because Huang '578 does not disclose the use of substituted cyclical anhydrides, it does not anticipate each element of the current claim set. Applicant respectfully submits that this rejection has been traversed, and its immediate withdrawal is requested.

[1] See Application as filed, pages 9-13.
[2] See US Pat No 6342578 at Col. 3, lines 33-39; and

CONCLUSION

Applicant believes that in light of the comments presented herewith, the application is now in a condition of allowance, and such favorable action is requested. Should Examiner determine that any further action is necessary to place the Application in better form for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,



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